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^b $S_D=1/W$, where W = sheet width (feet).
^c If no specific information is available, these factors can be assumed to represent the most common bolted decks currently in use.
^d $S_D=(L+W)/LW$, where W = panel width (feet), and L = panel length (feet).

TABLE 29 TO SUBPART G OF PART 63—SEAL RELATED FACTORS FOR EXTERNAL FLOATING ROOF VESSELS

Seal type	Welded ves-sels		Riveted ves-sels	
	K _s	N	K _s	N
Metallic shoe seal:				
Primary seal only	1.2	1.5	1.3	1.5
With shoe-mounted secondary seal	0.8	1.2	1.4	1.2
With rim-mounted secondary seal	0.2	1.0	0.2	1.6
Liquid mounted resilient seal:				
Primary seal only	1.1	1.0	^a NA	NA
With weather shield	0.8	0.9	NA	NA
With rim-mounted secondary seal	0.7	0.4	NA	NA
Vapor mounted resilient seal:				
Primary seal only	1.2	2.3	NA	NA
With weather shield	0.9	2.2	NA	NA
With rim-mounted secondary seal	0.2	2.6	NA	NA

^a NA=Not applicable.

TABLE 30 TO SUBPART G OF PART 63—ROOF FITTING LOSS FACTORS, K_{Fa}, K_{Fb}, AND M, ^A AND TYPICAL NUMBER OF FITTINGS, N_T

Fitting type and construction details	Loss factors ^b			Typical number of fittings, N _T
	K _{Fa} (lb-mole/yr)	K _{Fb} (lb-mole/[mi/hr] ^m -yr)	m (dimensionless)	
Access hatch (24-in-diameter well)				1.
Bolted cover, gasketed	0	0	^c 0	
Unbolted cover, ungasketed	2.7	7.1	1.0	
Unbolted cover, gasketed	2.9	0.41	1.0	
Unslotted guide-pole well (8-in-diameter unslotted pole, 21-in-diameter well)				1.
Ungasketed sliding cover	0	67	^c 0.98	
Gasketed sliding cover	0	3.0	1.4	
Slotted guide-pole/sample well (8-in-diameter unslotted pole, 21-in-diameter well)				(^d).
Ungasketed sliding cover, without float	0	310	1.2	
Ungasketed sliding cover, with float	0	29	2.0	
Gasketed sliding cover, without float	0	260	1.2	
Gasketed sliding cover, with float	0	8.5	1.4	
Gauge-float well (20-inch diameter)				1.
Unbolted cover, ungasketed	2.3	5.9	^c 1.0	
Unbolted cover, gasketed	2.4	0.34	1.0	
Bolted cover, gasketed	0	0	0	
Gauge-hatch/sample well (8-inch diameter)				1.
Weighted mechanical actuation, gasketed.	0.95	0.14	^c 1.0	
Weighted mechanical actuation, ungasketed.	0.91	2.4	1.0	
Vacuum breaker (10-in-diameter well)				N _{F6} (Table 31).
Weighted mechanical actuation, gasketed.	1.2	0.17	^c 1.0	
Weighted mechanical actuation, ungasketed.	1.2	3.0	1.0	
Roof drain (3-in-diameter)				N _{F7} (Table 31).
Open	0	7.0	^e 1.4	N _{F8} (Table 32').
90 percent closed	0.51	0.81	1.0	
Roof leg (3-in-diameter)				N _{F8} (Table 32').
Adjustable, pontoon area	1.5	0.20	^c 1.0	
Adjustable, center area	0.25	0.067	^c 1.0	
Adjustable, double-deck roofs	0.25	0.067	1.0	
Fixed	0	0	0	
Roof leg (2½-in-diameter)				N _{F8} (Table 32').
Adjustable, pontoon area	1.7	0	0	
Adjustable, center area	0.41	0	0	
Adjustable, double-deck roofs	0.41	0	0	
Fixed	0	0	0	

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Fitting type and construction details	Loss factors ^b			Typical number of fittings, N _T
	K _{Fa} (lb-mole/yr)	K _{Fb} (lb-mole/[mi/hr] ^m -yr)	m (dimensionless)	
Rim vent (6-in-diameter)				1 ^a .
Weighted mechanical actuation, gasketed.	0.71	0.10	^c 1.0	
Weighted mechanical actuation, ungasketed.	0.68	1.8	1.0	

^a The roof fitting loss factors, K_{Fa}, K_{Fb}, and m, may only be used for wind speeds from 2 to 15 miles per hour.
^b Unit abbreviations are as follows: lb = pound; mi = miles; hr = hour; yr = year.
^c If no specific information is available, this value can be assumed to represent the most common or typical roof fittings currently in use.
^d A slotted guide-pole/sample well is an optional fitting and is not typically used.
^e Roof drains that drain excess rainwater into the product are not used on pontoon floating roofs. They are, however, used on double-deck floating roofs and are typically left open.
^f The most common roof leg diameter is 3 inches. The loss factors for 2½-inch diameter roof legs are provided for use if this smaller size roof is used on a particular floating roof.
^g Rim vents are used only with mechanical-shoe primary seals.

TABLE 31 TO SUBPART G OF PART 63—TYPICAL NUMBER OF VACUUM BREAKERS, N_{F6} AND ROOF DRAINS, ^A N_{F7}

Tank diameter D (feet) ^b	No. of vacuum breakers, N _{F6}		No. of roof drains, N _{F7} double-deck roof ^c
	Pontoon roof	Double-deck roof	
50	1	1	1
100	1	1	1
150	2	2	2
200	3	2	3
250	4	3	5
300	5	3	7
350	6	4	^d
400	7	4	^d

^a This table should not supersede information based on actual tank data.
^b If the actual diameter is between the diameters listed, the closest diameter listed should be used. If the actual diameter is midway between the diameters listed, the next larger diameter should be used.
^c Roof drains that drain excess rainwater into the product are not used on pontoon floating roofs. They are, however, used on double-deck floating roofs, and are typically left open.
^d For tanks more than 300 feet in diameter, actual tank data or the manufacturer's recommendations may be needed for the number of roof drains.

TABLE 32 TO SUBPART G OF PART 63—TYPICAL NUMBER OF ROOF LEGS, ^A N_{F8}

Tank diameter D (feet) ^b	Pontoon roof		No. of legs on double-deck roof
	No. of pontoon legs	No. of center legs	
30	4	2	6
40	4	4	7
50	6	6	8
60	9	7	10
70	13	9	13
80	15	10	16
90	16	12	20
100	17	16	25
110	18	20	29
120	19	24	34
130	20	28	40
140	21	33	46
150	23	38	52
160	26	42	58
170	27	49	66
180	28	56	74
190	29	62	82
200	30	69	90
210	31	77	98
220	32	83	107
230	33	92	115
240	34	101	127
250	34	109	138
260	36	118	149
270	36	128	162
280	37	138	173